Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application.

1-62. (Cancelled)

63. (Previously Presented) A process for characterizing DNA comprising a step of isolating nucleic acids comprising (a) lysing a cell in a biological material that contains DNA; (b) treating the biological material with a DNA purifying agent reagent to purify the DNA from remaining biological material; and (c) characterizing the purified DNA;
wherein the step of lysing the cell (a) comprises:

contacting the biological material that contains DNA with a solid support having dried thereon a lysing reagent and a RNA digesting enzyme,
wherein the lysing reagent consists of a detergent, optionally water, optionally a buffer, and optionally a chelating agent and

wherein the lysing reagent is of a type suitable to preserve the RNA digesting function of the RNA digesting enzyme and is used in an amount suitable to cause lysis of the cell to release DNA from the biological material and

wherein the cell and/or the biological material can optionally additionally be treated with at least one of a red blood cell lysing reagent, a cell suspension agent, a lytic enzyme reagent, and/or a protein digesting agent.

64. -65 (canceled)

66. (previously presented) The process of claim 63 wherein the detergent is SDS.

67. (previously presented) The process according to any one of claims 63 or 66, wherein the RNA digesting enzyme is RNase A.

68. (previously presented) The process according to any one of claims 63 or 66, wherein

the isolating step further comprises applying a DNA eluting reagent to the solid support, wherein the DNA eluting reagent comprises:

a buffer;

a base;

a chelating agent; and

water; and

wherein the DNA eluting reagent has a pH of at least 10.0, and a combined concentration of buffer, base, and chelating agent is no greater than about 20 mM, based on the total volume of the DNA eluting reagent.

69. (previously presented) The process according to any one of claims 63 or 66, wherein the solid support is contained in a vessel, wherein the vessel is selected from the group consisting of centrifuge tubes, spin tubes, syringes, cartridges, chambers, multiple-well plates, test tubes and combinations thereof.

70. (previously presented) The process according to any one of claims 63 or 66 , wherein the isolating step further comprises the step of heating the solid support to greater than 60°C.

71. (previously presented) The process according to any one of claims 63 or 66 , wherein the biological material is selected from the group consisting of eukaryotic cells, prokaryotic cells, microbial cells, bacterial cells, plant cells, mycoplasma, protozoa, fungi, viruses, and lysates and homogenates thereof.

72. (previously presented) The process according to any one of claims 63 or 66, wherein the biological material is selected from the group consisting of body fluids, body waste products, excretions, and tissues.

73. (previously presented) The process according to any one of claims 63 or 66, wherein the biological material is an environmental sample taken from air, water, sediment and/or soil.

74. (previously presented) The process according to claim 71, wherein the isolating step further comprises a step of counting eukaryotic cells when the biological material comprises eukaryotic cells.

75. (previously presented) The process according to claim 71, wherein the isolating step further comprises a step of counting prokaryotic cells when the biological material comprises prokaryotic cells.

76. (previously presented) The process according to claim 71, wherein the isolating step further comprises a step of counting viruses when the biological material comprises viruses.

77. (previously presented) The process according to any one of claims 63 or 66 , wherein the isolating step further comprises a step of analyzing lysate formed.

78. (previously presented) The process according to any one of claims 63 or 66, wherein the isolating step further comprises a step of analyzing remaining biological material.

79. (previously presented) The process according to claim 77, wherein the analyzing step further comprises a step of monitoring impurities.

80. (previously presented) The process according to any one of claims 63 or 66 , wherein the isolating step further comprises a step of quantitating purified DNA.

81. (previously presented) The process according to any one of claims 63 or 66 , wherein the isolating step further comprises a step of adjusting the concentration of DNA.

82. (previously presented) The process according to any one of claims 63 or 66 , wherein the isolating step further comprises a step of evaluating purified DNA.

83. (previously presented) The process according to claim 82, wherein the step of evaluating purified DNA further comprises a step of determining the yield of purified DNA.

84. (previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of determining the size of purified DNA or fragments thereof.

85. (previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of determining the purity of DNA.

86. (previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of digesting the purified DNA with a restriction enzyme or other DNA modifying enzyme.

87. (previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of analyzing the sequence of the purified DNA.

88. (previously presented) The process according to claim 82, wherein the step of evaluating the purified DNA further comprises a step of conducting a hybridization analysis on the purified DNA.

89. (previously presented) The process according to any one of claims 63 or 66, wherein the biological material is applied to the solid support without any prior treatment of the biological material.

90. (previously presented) The process according to any one of claims 63 or 66 , wherein the solid support is at least one selected from the group consisting of cellulose, cellulose acetate, glass fiber, nitrocellulose, nylon, polyester, polyethersulfone, polyolefin, and polyvinylidene fluoride.

91. (previously presented) The process of claim 90, wherein the polyolefin is a mixture of low density polyethylene and polypropylene fibers.

92. (Previously presented) The process of claim 91, wherein the polyolefin is hydrophilic.

93. (Previously presented) The process of claim 91, wherein the polyolefin has a charge.

94. – 100. (Canceled)

100. (previously presented) The process according to any one of claims 63 or 66 , wherein the process for characterizing DNA further comprises a step of amplifying the purified DNA, wherein the purified DNA is applied to an amplification system to create amplified DNA.

101. (currently amended) The process of claim [[101]] 100, wherein the amplification system comprises buffer, primers, deoxyribonucleotides, a thermostable DNA polymerase, and a programmable heating element.

102. (previously presented) The process of claims 101, further comprising a step of quantitating amplified DNA.

103. (previously presented) The process of claims 101, further comprising a step of evaluating amplified DNA.

104. (previously presented) The process of claim 103, wherein the step of evaluating amplified DNA further comprises a step of determining the size of amplified DNA.

105. (previously presented) The process of claim 103, wherein the step of evaluating amplified DNA further comprises a step of digesting amplified DNA with a restriction enzyme.

106. (previously presented) The process according to claim 103, wherein the step of evaluating amplified DNA further comprises a step of sequencing amplified DNA.

107. (previously presented) The process according to claim 103, wherein the step of evaluating amplified DNA further comprises a step of analyzing the sequence of amplified DNA.

108. (previously presented) The process according to claim 103, wherein the step of evaluating amplified DNA further comprises a step of conducting a hybridization analysis on amplified DNA.

110. (Currently amended) A process for purifying DNA from white blood cells in a whole blood sample, the process comprising the steps of;

a) contacting a whole blood sample with red blood cell Lysis Reagent comprising 140-150 mM ammonium chloride, 0.5 to 5 mM sodium bicarbonate and 0.5 to 10 mM EDTA based on the total volume;

b) separating the white blood cells from the sample;

c) isolating nucleic acid from the white blood cells by an isolating step comprising(i) lysing a cell in a biological material that contains DNA; (ii) treating the biological material with a DNA purifying agent reagent to purify the DNA from remaining biological material; and (iii) characterizing the purified DNA;

wherein the step of lysing the cell comprises ~~consists of~~ contacting the biological material that contains DNA with a solid support having dried thereon a lysing reagent and a RNA digesting enzyme, wherein the lysing reagent consists ~~essentially~~ of a detergent, optionally water, optionally a buffer, and optionally a chelating agent and wherein the lysing reagent is of a type suitable to preserve the RNA digesting function of the RNA digesting enzyme and is used in an amount suitable to cause lysis of the cell to release DNA from the biological material and wherein the cell and/or the biological material can optionally additionally be treated with at least one of a red blood cell lysing reagent, a cell suspension agent, a lytic enzyme reagent, and/or a protein digesting agent..

111. (Currently amended) A process for purifying DNA from yeast cells and gram-positive bacterial cells, the process comprising the steps of;

a) suspending the yeast or gram-positive cells in Cell Suspension Reagent comprising 0.05 to 0.15M Tris to maintain the sample at a pH of about 7.0- to about 8.5, and further comprises 0.05 to 0.15 M EDTA;

b) adding Lytic Enzyme Reagent to the cells in Cell Suspension Reagent to form a mixture containing digested cells wherein the lytic enzyme reagent digests beta-1,3-glucose polymers contained in yeast cell walls;

c) separating the digested cells from the mixture;

d) isolating nucleic acid from the digested cells by an isolating step comprising (i) lysing a cell in a biological material that contains DNA; (ii) treating the biological material with a DNA purifying agent reagent to purify the DNA from remaining biological material; and (iii) characterizing the purified DNA;

wherein the step of lysing the cell comprises ~~consists of~~ contacting the biological material that contains DNA with a solid support having dried thereon a lysing reagent and a RNA digesting enzyme, wherein the lysing reagent consists ~~essentially~~ of a detergent, optionally water, optionally a buffer, and optionally a chelating agent and wherein the lysing reagent is of a type suitable to preserve the RNA digesting function of the RNA digesting enzyme and is used in an amount suitable to cause lysis of the cell to release DNA from the biological material and wherein the cell and/or the biological material can optionally additionally be treated with at least one of a red blood cell lysing reagent, a cell suspension agent, a lytic enzyme reagent, and/or a protein digesting agent.

112. (Canceled)